

**Historic, Archive Document**

Do not assume content reflects current  
scientific knowledge, policies, or practices.



A423  
R31S0

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
LIBRARY



BOOK NUMBER

914134

A423

R318o

UNITED STATES DEPARTMENT OF AGRICULTURE  
Agricultural Research Service

SOME QUESTIONS AND ANSWERS ABOUT MEDITERRANEAN FRUIT FLY

Federal-State operations in Florida to eradicate the Mediterranean fruit fly touch the lives of people in many ways. Since big-scale spraying began in the Miami area many questions have been asked. The same questions arise in other areas where spot infestations are promptly sprayed after trapping shows the presence of this destructive pest of citrus and other fruits. This statement has been prepared by officials directing the eradication work to answer some of the questions most commonly asked:

Q. Could the Medfly have been in Florida since 1929?

A. No. It was completely eradicated at that time. Ask yourself: Could we live with houseflies or mosquitoes for 27 years without knowing of their presence? The Medfly itself isn't as obnoxious as either of these common pests, but its larvae--maggots--would have been commonplace and unmistakable in most Florida-grown fruits and vegetables. Actually, a search for the Medfly was continued for several years following its eradication in 1930. No trace of the pest was found until last spring (1956) when a Miami Shores resident discovered maggots in grapefruit on his property. Examination proved the maggots to be larvae of the dread Medfly. It is believed that this new infestation resulted from infested fruit brought in from foreign lands through the Miami International Airport.

Q. Is it necessary to use low-flying spray planes to treat urban areas?

A. Yes. The alternatives to aerial treatment--host fruit destruction or ground spraying--are both too cumbersome and too costly to be satisfactory. Unlike the infestation of 1929, which occurred in primarily grove areas and was curbed by

(more)





picking and destroying host fruit, today's main infestation lies in urban areas where an abundance and wide variety of host plants are grown. It would be impossible in this day to hire the labor required to pick all such host fruit. Planes must be flown at low altitudes to keep the spray droplets close together and of an effective size. At low altitudes, pilots can accurately judge their spray pattern and so gain greatest coverage with least waste. The planes present no greater hazard to urban areas than other commercial aircraft. They have the complete sanction of the Civil Aeronautics Administration.

Q. Is the spray dangerous to me?

A. No. At the rate used against the Medfly, malathion is not hazardous to humans, livestock, dogs, cats, or birds. Only one-half pound of actual malathion is spread over each acre of ground under treatment. The insecticide is mixed with a protein bait that attracts the Medfly and encourages it to feed on the insecticide. Tests have proved that the bait spray is not toxic to most tropical fish in deep pools of water. However, if your pool is shallow or contains much vegetation, cover it during spraying as a precautionary measure. Investigations have shown that bees are not attracted to or seriously affected by malathion bait spray. Beekeepers should shade the hive entrance during spraying to prevent the bees from tracking bait spray into the colony on their feet.

Q. Is aerial spraying worthwhile if planes accidentally fail to treat certain areas?

A. Yes. If a straight insecticide spray was used, "skips" would be disastrous in an eradication effort. However, the bait spray attracts the flies to their death, and if skips occur, the bait in the treated areas on either side of the skip will lure the flies from untreated areas. The bait spray is known to attract flies from distances up to 500 feet.

(more)





Q. Why do areas have to be treated so many times?

A. It is true that a single treatment with bait spray destroys all the adult flies present at the time of treatment. However, Medflies exist in three other forms: as eggs and maggots in fruit and as pupa in the soil. Here's how they live: The female fly lays her eggs beneath the skin of ripening fruit. In a few days these eggs hatch into tiny maggots that immediately begin feeding on the flesh of the fruit. As the feeding continues and maggots fatten, the fruit as human food becomes worthless. When the maggots become full grown, they leave the fruit for a resting or pupal period in the soil. It is then that they become transformed into flies. Excepting the flies, all of these forms are out of reach of bait sprays. It is necessary to keep bait spray available to new flies as they emerge from the soil, sometimes as long as 40 days after eggs are laid in fruit. By spraying at 10-day intervals, flies are prevented from developing a new generation. If rains do not wash off the spray, it continues to kill for a week or longer after application, and it takes flies approximately 10 days at favorable temperatures to become mature enough to lay eggs. As an insurance measure, a granular insecticide, dieldrin, is applied to the soil beneath preferred host plants. This chemical kills a high percentage of the maggots as they leave the fruit and vegetables to enter the soil and also is toxic to young adult flies emerging from the soil.

Q. Why do we need roadblocks?

A. Roadblocks are a necessary emergency measure. Their very presence points up the seriousness of the situation. When current infestations are marked on a map it is apparent that our highways have been the principal mode of Medfly escape from the original infested area in Miami. Probably many of these infestations have resulted from maggoty fruit that has been discarded along the roadside

(more)



by tourists. This spread occurred before roadblocks were put into effect. The blocks serve their purpose by braking the accidental spread of the fly.

Q. Why are traps used?

A. Traps tell Medfly officials where flies exist and to what extent. The glass and plastic fly-catchers are not effective enough to provide control of the pest. However, traps do a good job discovering Medflies in areas not known to be infested so that control and eradication efforts can be carried out before the infestation gets too large to handle. In addition, traps are used to determine if flies are continuing to emerge from the soil following pupation in an area that is under spray treatment, thus providing a measure of the rate of approach to eradication. To make the trapping as effective as possible, inspectors are assigned a certain number of traps which they bait, check, and move on a schedule. These traps are not only vitally important to the eradication effort, but they contain an insecticide that is hazardous to man. For these reasons they should not be molested.

Q. What will happen if the Medfly is not eradicated?

A. If eradication fails, then we will have to learn to "live" with the pest. In terms of cost and trouble, eradication is by far the cheaper means of coping with the Medfly. First, the burden of control would be switched from State and Federal Governments to individual growers and home owners. Sprays would have to be applied frequently throughout the season when fruit is on the trees to protect the crop from the fly. Excessive spray residues would have to be removed. Despite spraying, the fly would cause considerable crop damage and because maggoty fruit would have to be removed before marketing, grading costs would go up. Furthermore it must be anticipated that the Florida citrus and vegetable market would suffer to some extent because of public prejudice against

(more)



fruit that might contain maggots. Fumigation of all interstate shipments of produce would be necessary. Those crops that will not tolerate fumigation could be sold only at local markets. To avoid excessive fly damage to ripening fruit, some crops would have to be picked before maturity with resultant price discrimination due to reduced quality and because of the need of a quick sale. These losses would affect not only the growers, but also the thousands of workers who depend on Florida's agricultural industry for a livelihood. Road-blocks to assist in protecting other States would be necessary. It is likely, however, that it would be impossible even with these measures, to prevent heavy infestations from spreading to other areas. Just one year of living with the fly would cost more than is being spent on eradication.

Q. What can I do to help?

A. Understanding the aims of the program and the reasons for its various phases will lend tremendous assistance to Medfly eradication. Where there is understanding there is a willingness to comply with the necessary rules of such a program. Listed here are a few ways that you can help:

Ship only inspected and certified Medfly-free host fruits, vegetables, and plants to points outside quarantined and regulated zones.

Leave all fruits, vegetables, and plants at home when you travel.

Pick up and destroy daily all dropped fruits and vegetables on your property. Destroy by burning or by treating with insecticide and burying under a foot of soil.

Assist the crews seeding your property with dieldrin by keeping your children and pets indoors during treatment. Rinse the bait spray off your automobile as soon as possible following spraying. Protect your outdoor aquarium.

Report to the nearest Medfly district inspector or employee the presence of any suspicious-looking fly or maggot.









